Exhibit 300: Capital Asset Plan and Business Case Summary

Part I: Summary Information And Justification (All Capital Assets)

Section A: Overview (All Capital Assets)

1. Date of Submission:	4/10/2009
2. Agency:	Department of Energy
3. Bureau:	Energy Programs
4. Name of this Capital Asset:	LBNL Energy Sciences Network (ESnet)
5. Unique Project (Investment) Identifier: (For IT investment only, see section 53. For all other, use agency ID system.)	019-20-01-21-01-1021-00
6. What kind of investment will this be in FY 2010? (Please NOTE: Investments moving to O&M in FY 2010, with Planning/Acquisition activities prior to FY 2010 should not select O&M. These investments should indicate their current status.)	Operations and Maintenance
7. What was the first budget year this investment was submitted to OMB?	FY2003

8. Provide a brief summary and justification for this investment, including a brief description of how this closes in part or in whole an identified agency performance gap:

SC LBNL ESnet sponsored by the Department of Energy (DOE), Office of Science's (SC) procures, operates and maintains a high bandwidth, national wide-area network used to support scientific research. The primary base of operations is at Lawrence Berkeley National Laboratory in Berkeley California. The network supports modern large-scale science conducted by the Office of Science requiring the movement of massive amounts of data between geographically distant instruments and computational and storage resources. This investment supports the programmatic goals of the Department of Energy and Office of Science by providing increasing higher network bandwidth, availability and functionality to enable advances in scientific research sponsored by the Department of Energy and it's collaborators. In addition to the increase in the average bandwidth available, the program will increase the average number of connections to sites and peers and reduce the average cost per Gbps. The performance targets close the network bandwidth gap for open science research which are inline with DOE theme 3 Scientific Discovery, DOE strategic goals and 3.2 Foundations of Science, and the Office of Science's strategic goals. projected in 2009. ESnet directly supports the mission through its business functions: (1) service to citizens, general scientific innovation, scientific and technological research and innovations; under the sub-function Advanced Scientific Computing Research: (2) mode of delivery, knowledge creation and management, research and development. Finally, the management of this investment involves extensive collaboration with the science community including DOE energy researchers, NASA, NIH, NSF, university researchers, industrial research collaborators and international science bodies.

9. Did the Agency's Executive/Investment Committee approve this request?	Yes
a. If "yes," what was the date of this approval?	8/21/2008
10. Did the Project Manager review this Exhibit?	Yes
11. Contact information of Program/Project Manager?	
Name	Yip, Warren
Phone Number	510-486-4297
Email	warren.yip@bso.science.doe.gov
a. What is the current FAC-P/PM (for civilian agencies) or DAWIA (for defense agencies) certification level of the program/project manager?	Waiver Issued
b. When was the Program/Project Manager Assigned?	8/21/2007
c. What date did the Program/Project Manager receive the FAC-P/PM certification? If the certification has not been issued, what is the anticipated date for certification?	9/8/2009
12. Has the agency developed and/or promoted cost effective, energy-efficient and environmentally sustainable techniques or practices for this project?	Yes
a. Will this investment include electronic assets (including computers)?	Yes

b. Is this investment for new construction or major retrofit of a Federal building or facility? (answer applicable to non-IT assets only)   No

    1. If "yes," is an ESPC or UESC being used to help fund this investment?

    2. If "yes," will this investment meet sustainable design principles?

    3. If "yes," is it designed to be 30% more energy efficient than relevant code?

13. Does this investment directly support one of the PMA initiatives?   Yes

    If "yes," check all that apply: R and D Investment Criteria

    a. Briefly and specifically describe for each selected how this asset directly supports the identified initiative(s)? (e.g. If E-Gov is selected, is it an approved shared service provider or the managing partner?)   This asset supports R&D Investment criteria by providing a highly performing and reliable network infrastructure that enables the interconnection of scientific instruments, massive databases, computing facilities, and the scientific community. By integrating these elements ESnet becomes a vital factor in enabling, promoting, and facilitating scientific research anc collaboration within DOE and other agencies e.g. NASA, NIH, and NSF.

14. Does this investment support a program assessed using the Program Assessment Rating Tool (PART)? (For more information about the PART, visit www.whitehouse.gov/omb/part.)   Yes

    a. If "yes," does this investment address a weakness found during a PART review?   Yes

    b. If "yes," what is the name of the PARTed program?   10000074 - Advanced Scientific Computing Research

    c. If "yes," what rating did the PART receive?   Moderately Effective

15. Is this investment for information technology?   Yes

If the answer to Question 15 is "Yes," complete questions 16-23 below. If the answer is "No," do not answer questions 16-23.

For information technology investments only:

16. What is the level of the IT Project? (per CIO Council PM Guidance)   Level 2

17. In addition to the answer in 11(a), what project management qualifications does the Project Manager have? (per CIO Council PM Guidance)   (1) Project manager has been validated as qualified for this investment

18. Is this investment or any project(s) within this investment identified as "high risk" on the Q4 - FY 2008 agency high risk report (per OMB Memorandum M-05-23)   No

19. Is this a financial management system?   No

    a. If "yes," does this investment address a FFMIA compliance area?

    1. If "yes," which compliance area:

    2. If "no," what does it address?

    b. If "yes," please identify the system name(s) and system acronym(s) as reported in the most recent financial systems inventory update required by Circular A-11 section 52

20. What is the percentage breakout for the total FY2010 funding request for the following? (This should total 100%)

Hardware	4.80
Software	1.30
Services	93.90
Other	0

21. If this project produces information dissemination products for the public, are these products published to the Internet in conformance with OMB Memorandum 05-04 and included in your agency inventory, schedules and priorities?   N/A

22. Contact information of individual responsible for privacy related questions:

Name	Sumikawa, Denise
Phone Number	510-486-5519
Title	Privacy Officer
E-mail	dasumikawa@lbl.gov
23. Are the records produced by this investment appropriately scheduled with the National Archives and Records Administration's approval?	Yes

Question 24 must be answered by all Investments:

24. Does this investment directly support one of the GAO High Risk Areas?	No

Section B: Summary of Spending (All Capital Assets)

1. Provide the total estimated life-cycle cost for this investment by completing the following table. All amounts represent budget authority in millions, and are rounded to three decimal places. Federal personnel costs should be included only in the row designated "Government FTE Cost," and should be excluded from the amounts shown for "Planning," "Full Acquisition," and "Operation/Maintenance." The "TOTAL" estimated annual cost of the investment is the sum of costs for "Planning," "Full Acquisition," and "Operation/Maintenance." For Federal buildings and facilities, life-cycle costs should include long term energy, environmental, decommissioning, and/or restoration costs. The costs associated with the entire life-cycle of the investment should be included in this report.

Table 1: SUMMARY OF SPENDING FOR PROJECT PHASES (REPORTED IN MILLIONS) (Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)								
	PY-1 and earlier	PY 2008	CY 2009	BY 2010	BY+1 2011	BY+2 2012	BY+3 2013	BY+4 and beyond	Total
Planning:	0	0	0	0	0	0	0	0	0
Acquisition:	0	0	0	0	0	0	0	0	0
Subtotal Planning & Acquisition:	0	0	0	0	0	0	0	0	0
Operations & Maintenance:	45.141	28.008	23.696	30	30	30	30	30	246.845
TOTAL:	45.141	28.008	23.696	30	30	30	30	30	246.845
Government FTE Costs should not be included in the amounts provided above.								
Government FTE Costs	0.02	0.03	0.021	0.022	0.023	0.023	0.024	0.025	0.188
Number of FTE represented by Costs:	1	1	1	1	1	1	1	1	8

Note: For the multi-agency investments, this table should include all funding (both managing partner and partner agencies). Government FTE Costs should not be included as part of the TOTAL represented.

2. Will this project require the agency to hire additional FTE's?   No

    a. If "yes," How many and in what year?

3. If the summary of spending has changed from the FY2009 President's budget request, briefly explain those changes:

Section C: Acquisition/Contract Strategy (All Capital Assets)

1. Complete the table for all (including all non-Federal) contracts and/or task orders currently in place or planned for this investment. Total Value should include all option years for each contract. Contracts and/or task orders completed do not need to be included.

Contracts/Task Orders Table: * Costs in millions

Contract or Task Order Number	Type of Contract/ Task Order (In accordance with FAR Part 16)	Has the contract been awarded (Y/N)	If so what is the date of the award? If not, what is the planned award date?	Start date of Contract/ Task Order	End date of Contract/ Task Order	Total Value of Contract/ Task Order ($M)	Is this an Interagency Acquisition? (Y/N)	Is it performance based? (Y/N)	Competitively awarded? (Y/N)	What, if any, alternative financing option is being used? (ESPC, UESC, EUL, N/A)	Is EVM in the contract? (Y/N)	Does the contract include the required security & privacy clauses? (Y/N)	Name of CO	CO Contact information (phone/email)	Contracting Officer FAC-C or DAWIA Certification Level (Level 1, 2, 3, N/A)	If N/A, has the agency determined the CO assigned has the competencies and skills necessary to support this acquisition? (Y/N)
DE-AC02-05CH11231	Cost Reimbursable	Yes	4/19/2005	6/1/2005	9/30/2014	208.983	No	Yes	Yes	NA	Yes	Yes	Marshall, Charles	510-486-5184 / cwmarshall@lbl.gov	Level 3	
Internet2-68115617	Firm-Fixed Price	Yes	10/1/2007	1/1/2008	3/31/2013	34.818	No	Yes	No	NA	No	Yes	Marshall, Charles	510-486-5184 / cwmarshall@lbl.gov	Level 3	

2. If earned value is not required or will not be a contract requirement for any of the contracts or task orders above, explain why:

Earned value is not a contract requirement for the Internet 2 subcontract because the Laboratory can meet earned value requirements set by DOE without passing on the same requirements to their subcontracts.

3. Do the contracts ensure Section 508 compliance?	Yes
a. Explain why not or how this is being done?	LBNL is operated by the University of California and must comply with California State Law requiring reasonable accommodation to member of the public and employees. State law provides functional equivalence to Section 508 compliance which applies to Federal employees and members of the public seeking information from Federal Agencies.
4. Is there an acquisition plan which reflects the requirements of FAR Subpart 7.1 and has been approved in accordance with agency requirements?	Yes
a. If "yes," what is the date?	7/23/2008
1. Is it Current?	Yes
b. If "no," will an acquisition plan be developed?	
1. If "no," briefly explain why:	

Section D: Performance Information (All Capital Assets)

In order to successfully address this area of the exhibit 300, performance goals must be provided for the agency and be linked to the annual performance plan. The investment must discuss the agency's mission and strategic goals, and performance measures (indicators) must be provided. These goals need to map to the gap in the agency's strategic goals and objectives this investment is designed to fill. They are the internal and external performance benefits this investment is expected to deliver to the agency (e.g., improve efficiency by 60 percent, increase citizen participation by 300 percent a year to achieve an overall citizen participation rate of 75 percent by FY 2xxx, etc.). The goals must be clearly measurable investment outcomes, and if applicable, investment outputs. They do not include the completion date of the module, milestones, or investment, or general goals, such as, significant, better, improved that do not have a quantitative or qualitative measure.

Agencies must use the following table to report performance goals and measures for the major investment and use the Federal Enterprise Architecture (FEA) Performance Reference Model (PRM). Map all Measurement Indicators to the corresponding "Measurement Area" and "Measurement Grouping" identified in the PRM. There should be at least one Measurement Indicator for each of the four different Measurement Areas (for each fiscal year). The PRM is available at www.egov.gov. The table can be extended to include performance measures for years beyond the next President's Budget.

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
2007	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Customer Results	Service Coverage	Service Efficiency	Average of the total useful bandwidth	In FY06 the average of the total useful bandwidth was 20.8 Gb/s	Increase the average bandwidth by 20%	The average bandwidth was improved to 42.6, a 105% improvement.
2007	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Mission and Business Results	Information and Technology Management	Information Management	Ratio of Staff to useful bandwidth	In FY06 the ratio of staff to useful bandwidth was .76 Gb/s per FTE	Increase the ratio by 20% every year	1.41 Gb/s per FTE, a 86% improvement
2007	GOAL 3.2 Foundations of Science Deliver	Processes and Activities	Productivity	Efficiency	The cost per Gigabit/sec of useful bandwidth	In FY06 the cost per Gigabit/sec of useful	Decrease the cost per Gigabit/sec. of	The average cost per Gigabit/sec of useful

Performance Information Table

Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.					bandwidth was $576K.	useful bandwidth by at least 5%.	bandwidth decreased to $378K, a 34% decrease.
2007	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Technology	Reliability and Availability	Availability	The average number of connections to the OSC National Labs and the three primary R&E peering partners	In FY06 the average number of connections to the sites and peers was 1.9	Increase the average number of connections to all sites and peers by 10%.	The average number of connections to all sites and peers increased to 2.8, a 47% increase.
2008	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Customer Results	Service Coverage	Service Efficiency	Average of the total useful bandwidth	At the end of FY07, the average of the total useful bandwidth is expected to be 42.6 Gb/s	Increase the average bandwidth by 20%	The average bandwidth was improved to 58.3, a 37% improvement.
2008	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Mission and Business Results	Information and Technology Management	Information Management	Ratio of Staff to useful bandwidth	The ratio of staff to useful bandwidth is 1.91, a 35% improvement	Increase the ratio by 20% every year	The ratio of staff to useful bandwidth is 1.91, a 35% improvement.
2008	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Processes and Activities	Productivity	Efficiency	The cost per Gigabit/sec of useful bandwidth	At the end of FY07, the cost per Gigabit/sec of useful bandwidth is expected to be $378K.	Decrease the cost per Gigabit/sec. of useful bandwidth by at least 5%.	The average cost per Gigabit/sec of useful bandwidth has decreased to $278K, a 26% decrease
2008	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and	Technology	Reliability and Availability	Availability	The average number of connections to the OSC National Labs and the three primary R&E peering partners	At the end of FY07, the average number of connections to the sites and peers is expected to be 2.8.	Increase the average number of connections to all sites and peers by 10%.	The average number of connections to all sites and peers is 3.11, an 11% increase

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
	engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.							
2009	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Customer Results	Service Coverage	Service Efficiency				
2009	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Mission and Business Results	Information and Technology Management	Information Management				
2009	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Processes and Activities	Productivity	Efficiency				
2009	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Technology	Reliability and Availability	Availability				
2010	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure	Customer Results	Service Coverage	Service Efficiency				

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
	required for U.S. scientific primacy.							
2010	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Mission and Business Results	Information and Technology Management	Information Management				
2010	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Processes and Activities	Productivity	Efficiency				
2010	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Technology	Reliability and Availability	Availability				
2011	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Customer Results	Service Coverage	Service Efficiency				
2011	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Mission and Business Results	Information and Technology Management	Information Management				
2011	GOAL 3.2 Foundations of	Processes and Activities	Productivity	Efficiency				

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
	Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.							
2011	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Technology	Reliability and Availability	Reliability				
2012	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Customer Results	Service Coverage	Service Efficiency				
2012	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Mission and Business Results	Information and Technology Management	Information Management				
2012	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Processes and Activities	Productivity	Efficiency				
2012	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of	Technology	Reliability and Availability	Availability				

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.							
2013	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Customer Results	Service Coverage	Service Efficiency				
2013	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Mission and Business Results	Information and Technology Management	Information Management				
2013	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Processes and Activities	Productivity	Efficiency				
2013	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Technology	Reliability and Availability	Availability				
2014	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and	Customer Results	Service Coverage	Service Efficiency				

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
	infrastructure required for U.S. scientific primacy.							
2014	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Mission and Business Results	Information and Technology Management	Information Management				
2014	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Processes and Activities	Productivity	Efficiency				
2014	GOAL 3.2 Foundations of Science Deliver the scientific facilities, train the next generation of scientist and engineers, and provide the laboratory capabilities and infrastructure required for U.S. scientific primacy.	Technology	Reliability and Availability	Availability				

Section E: Security and Privacy (IT Capital Assets only)

In order to successfully address this area of the business case, each question below must be answered at the system/application level, not at a program or agency level. Systems supporting this investment on the planning and operational systems security tables should match the systems on the privacy table below. Systems on the Operational Security Table must be included on your agency FISMA system inventory and should be easily referenced in the inventory (i.e., should use the same name or identifier).

For existing Mixed-Life Cycle investments where enhancement, development, and/or modernization is planned, include the investment in both the "Systems in Planning" table (Table 3) and the "Operational Systems" table (Table 4). Systems which are already operational, but have enhancement, development, and/or modernization activity, should be included in both Table 3 and Table 4. Table 3 should reflect the planned date for the system changes to be complete and operational, and the planned date for the associated C&A update. Table 4 should reflect the current status of the requirements listed. In this context, information contained within Table 3 should characterize what updates to testing and documentation will occur before implementing the enhancements; and Table 4 should characterize the current state of the materials associated with the existing system.

All systems listed in the two security tables should be identified in the privacy table. The list of systems in the "Name of System" column of the privacy table (Table 8) should match the systems listed in columns titled "Name of System" in the security tables (Tables 3 and 4). For the Privacy table, it is possible that there may not be a one-to-one ratio between the list of systems and the related privacy documents. For example, one PIA could cover multiple systems. If this is the case, a working link to the PIA may be listed in column (d) of the privacy table more than once (for each system covered by the PIA).

The questions asking whether there is a PIA which covers the system and whether a SORN is required for the system are discrete from the narrative fields. The narrative column provides an opportunity for free text explanation why a working link is not provided. For example, a SORN may be required for the system, but the system is not yet operational. In this circumstance, answer "yes" for column (e) and in the narrative in column (f), explain that because the system is not operational the SORN is not yet required to be published.

Please respond to the questions below and verify the system owner took the following actions:

1. Have the IT security costs for the system(s) been identified and integrated into the overall costs of the investment?:

    a. If "yes," provide the "Percentage IT Security" for the budget year:

2. Is identifying and assessing security and privacy risks a part of the overall risk management effort for each system supporting or part of this investment?

3. Systems in Planning and Undergoing Enhancement(s), Development, and/or Modernization - Security Table(s):			
Name of System	**Agency/ or Contractor Operated System?**	**Planned Operational Date**	**Date of Planned C&A update (for existing mixed life cycle systems) or Planned Completion Date (for new systems)**

4. Operational Systems - Security Table:							
Name of System	**Agency/ or Contractor Operated System?**	**NIST FIPS 199 Risk Impact level (High, Moderate, Low)**	**Has C&A been Completed, using NIST 800-37? (Y/N)**	**Date Completed: C&A**	**What standards were used for the Security Controls tests? (FIPS 200/NIST 800-53, Other, N/A)**	**Date Completed: Security Control Testing**	**Date the contingency plan tested**
SC LBNL ESnet							

5. Have any weaknesses, not yet remediated, related to any of the systems part of or supporting this investment been identified by the agency or IG?

    a. If "yes," have those weaknesses been incorporated into the agency's plan of action and milestone process?

6. Indicate whether an increase in IT security funding is requested to remediate IT security weaknesses?

    a. If "yes," specify the amount, provide a general description of the weakness, and explain how the funding request will remediate the weakness.

7. How are contractor security procedures monitored, verified, and validated by the agency for the contractor systems above?

ESnet is an unclassified system managed at a contractor facility (LBNL in Berkeley, CA). Contractor employees and operations are subject to security policies developed by the DOE. A continuous management and oversight relationship exists between the Contractor and the Department, and this oversight is validated by internal and external assessments.

8. Planning & Operational Systems - Privacy Table:					
(a) Name of System	**(b) Is this a new system? (Y/N)**	**(c) Is there at least one Privacy Impact Assessment (PIA) which covers this system? (Y/N)**	**(d) Internet Link or Explanation**	**(e) Is a System of Records Notice (SORN) required for this system? (Y/N)**	**(f) Internet Link or Explanation**
SC LBNL ESnet	No	No	The system does not contain, process, or transmit personal identifying information	No	The system is not a Privacy Act system of records.

Details for Text Options:
Column (d): If yes to (c), provide the link(s) to the publicly posted PIA(s) with which this system is associated. If no to (c), provide an explanation why the PIA has not been publicly posted or why the PIA has not been conducted.

Column (f): If yes to (e), provide the link(s) to where the current and up to date SORN(s) is published in the federal register. If no to (e), provide an explanation why the SORN has not been published or why there isn't a current and up to date SORN.

Note: Working links must be provided to specific documents not general privacy websites. Non-working links will be considered as a blank field.

Section F: Enterprise Architecture (EA) (IT Capital Assets only)

In order to successfully address this area of the capital asset plan and business case, the investment must be included in the agency's EA and Capital Planning and Investment Control (CPIC) process and mapped to and supporting the FEA. The business case must demonstrate the relationship between the investment and the business, performance, data, services, application, and technology layers of the agency's EA.

1. Is this investment included in your agency's target enterprise architecture?   Yes

a. If "no," please explain why?

2. Is this investment included in the agency's EA Transition Strategy? Yes

    a. If "yes," provide the investment name as identified in the Transition Strategy provided in the agency's most recent annual EA Assessment. Office of Science LBNL Energy Sciences Network (SC LBNL ESnet)

    b. If "no," please explain why?

3. Is this investment identified in a completed and approved segment architecture? No

    a. If "yes," provide the six digit code corresponding to the agency segment architecture. The segment architecture codes are maintained by the agency Chief Architect. For detailed guidance regarding segment architecture codes, please refer to http://www.egov.gov. 115-000

4. Service Component Reference Model (SRM) Table:
Identify the service components funded by this major IT investment (e.g., knowledge management, content management, customer relationship management, etc.). Provide this information in the format of the following table. For detailed guidance regarding components, please refer to http://www.egov.gov.

Agency Component Name	Agency Component Description	FEA SRM Service Domain	FEA SRM Service Type	FEA SRM Component (a)	Service Component Reused Name (b)	Service Component Reused UPI (b)	Internal or External Reuse? (c)	BY Funding Percentage (d)
ESnet DNS Management	Facilitates the creation and maintenance of ESnet DNS data.	Back Office Services	Data Management	Meta Data Management			No Reuse	2
Networking Monitoring	Data management system for collecting and managing alarms from ESnet network devices	Business Management Services	Organizational Management	Network Management			No Reuse	4
ESnet Web Services	Resources providing access to ESnet documents and engineering information.	Digital Asset Services	Knowledge Management	Information Retrieval			No Reuse	2
ESnet Packet Routing Services	Resources to provide IPv4 andIPv6 packet routing across ESnet and external peering with national and international R&E networks.	Support Services	Communication	Computer / Telephony Integration			No Reuse	75
ESnet Data and Video Conferencing	Resources supporting multiple users to collaborate virtually using H.323 video conferencing	Support Services	Communication	Video Conferencing			No Reuse	6
		Support Services	Security Management				No Reuse	4
		Support Services	Security Management				No Reuse	3
Asset and Issue Tracking	Resources for managing the ESnet Trouble Ticketing and Asset Control data.	Support Services	Systems Management	Issue Tracking			No Reuse	2
ESnet Engineering and Administrative Infrastructure Support	Resources to provide desktop support for ESnet engineers and staff to enable design, maintenance, and documentation of ESnet	Support Services	Systems Management	System Resource Monitoring			No Reuse	2

4. Service Component Reference Model (SRM) Table:
Identify the service components funded by this major IT investment (e.g., knowledge management, content management, customer relationship management, etc.). Provide this information in the format of the following table. For detailed guidance regarding components, please refer to http://www.egov.gov.

Agency Component Name	Agency Component Description	FEA SRM Service Domain	FEA SRM Service Type	FEA SRM Component (a)	Service Component Reused Name (b)	Service Component Reused UPI (b)	Internal or External Reuse? (c)	BY Funding Percentage (d)
	activities							

a. Use existing SRM Components or identify as "NEW". A "NEW" component is one not already identified as a service component in the FEA SRM.

b. A reused component is one being funded by another investment, but being used by this investment. Rather than answer yes or no, identify the reused service component funded by the other investment and identify the other investment using the Unique Project Identifier (UPI) code from the OMB Ex 300 or Ex 53 submission.

c. 'Internal' reuse is within an agency. For example, one agency within a department is reusing a service component provided by another agency within the same department. 'External' reuse is one agency within a department reusing a service component provided by another agency in another department. A good example of this is an E-Gov initiative service being reused by multiple organizations across the federal government.

d. Please provide the percentage of the BY requested funding amount used for each service component listed in the table. If external, provide the percentage of the BY requested funding amount transferred to another agency to pay for the service. The percentages in the column can, but are not required to, add up to 100%.

5. Technical Reference Model (TRM) Table:
To demonstrate how this major IT investment aligns with the FEA Technical Reference Model (TRM), please list the Service Areas, Categories, Standards, and Service Specifications supporting this IT investment.

FEA SRM Component (a)	FEA TRM Service Area	FEA TRM Service Category	FEA TRM Service Standard	Service Specification (b) (i.e., vendor and product name)
	Component Framework	Security		
	Component Framework	Security		
	Component Framework	Security		
Computer / Telephony Integration	Service Access and Delivery	Service Transport	Supporting Network Services	
Computer / Telephony Integration	Service Access and Delivery	Service Transport	Supporting Network Services	
Computer / Telephony Integration	Service Access and Delivery	Service Transport	Supporting Network Services	
Issue Tracking	Service Platform and Infrastructure	Database / Storage	Database	
Information Retrieval	Service Platform and Infrastructure	Database / Storage	Storage	
Meta Data Management	Service Platform and Infrastructure	Database / Storage	Storage	
Network Management	Service Platform and Infrastructure	Database / Storage	Storage	
Issue Tracking	Service Platform and Infrastructure	Delivery Servers	Portal Servers	
Information Retrieval	Service Platform and Infrastructure	Delivery Servers	Web Servers	
Video Conferencing	Service Platform and Infrastructure	Hardware / Infrastructure	Video Conferencing	
System Resource Monitoring	Service Platform and Infrastructure	Support Platforms	Dependent Platform	

a. Service Components identified in the previous question should be entered in this column. Please enter multiple rows for FEA SRM Components supported by multiple TRM Service Specifications

b. In the Service Specification field, agencies should provide information on the specified technical standard or vendor product mapped to the FEA TRM Service Standard, including model or version numbers, as appropriate.

6. Will the application leverage existing components and/or applications across the Government (i.e., USA.gov, Pay.Gov, etc)?   Yes

a. If "yes," please describe.

The ESnet project leverages many existing investments in DOE. All DOE national laboratories collaborate using ESnet. It is the backbone of collaborative scientific computing research done at DOE. ESnet leverages each facility to provide the American Taxpayer with greater efficiencies at lower costs using standard commercial technologies (COTS) wherever possible. The DOE target architecture includes ESnet as an integral networking infrastructure.

Exhibit 300: Part III: For "Operation and Maintenance" investments ONLY (Steady State)

Section A: Risk Management (All Capital Assets)

Part III should be completed only for investments identified as "Operation and Maintenance" (Steady State) in response to Question 6 in Part I, Section A above.

You should have performed a risk assessment during the early planning and initial concept phase of this investment's life-cycle, developed a risk-adjusted life-cycle cost estimate and a plan to eliminate, mitigate or manage risk, and be actively managing risk throughout the investment's life-cycle.

1. Does the investment have a Risk Management Plan?   Yes

    a. If "yes," what is the date of the plan?   7/21/2008

    b. Has the Risk Management Plan been significantly   No
changed since last year's submission to OMB?

    c. If "yes," describe any significant changes:

2. If there currently is no plan, will a plan be developed?

    a. If "yes," what is the planned completion date?

    b. If "no," what is the strategy for managing the risks?

Section B: Cost and Schedule Performance (All Capital Assets)

1. Was an operational analysis conducted?   Yes

    a. If "yes," provide the date the analysis was completed.   6/2/2008

    b. If "yes," what were the results?

Operational analysis is conducted on a quarterly basis through the DOE/CIO quarterly reporting process and reviewed annually. The last review was 2 Jun 2008. The review included five critical areas: Customer Results, Strategic and Business Results, Financial Performance, Innovation and Plans. All areas scored green with a cost variance to plan of -1.54%. The Program does not expect to end the year outside a + or - 10% variance in costs or schedule. Additionally, a formal operational assessment was conducted in August 2007 with another planned in August 2008. Results from these reviews concluded ESnet was effectively managed to meet the Office of Science's networking needs for research.

    c. If "no," please explain why it was not conducted and if there are any plans to conduct operational analysis in the future:

2. Complete the following table to compare actual cost performance against the planned cost performance baseline. Milestones reported may include specific individual scheduled preventative and predictable corrective maintenance activities, or may be the total of planned annual operation and maintenance efforts).

    a. What costs are included in the reported Cost/Schedule   Contractor Only
Performance information (Government Only/Contractor
Only/Both)?

2.b Comparison of Plan vs. Actual Performance Table

Milestone Number	Description of Milestone	Planned		Actual		Variance	
		Completion Date (mm/dd/yyyy)	Total Cost($M)	Completion Date (mm/dd/yyyy)	Total Cost($M)	Schedule (# days)	Cost($M)
1	FY06 SS Operations	12/31/2005	$2.270000	12/31/2005	$2.270000	0	$0.000000
2	FY06 SS Telco Circuit Costs	12/31/2005	$0.540000	12/31/2005	$0.540000	0	$0.000000
3	FY06 SS Operations	3/31/2006	$2.110000	3/31/2006	$2.110000	0	$0.000000
4	FY06 SS Telco Circuit Costs	3/31/2006	$3.660000	3/31/2006	$3.660000	0	$0.000000
5	FY06 SS Operations	6/30/2006	$1.620000	6/30/2006	$1.620000	0	$0.000000
6	FY06 SS Telco Circuit Costs	6/30/2006	$2.280000	6/30/2006	$2.280000	0	$0.000000
7	FY06 SS Operations	9/30/2006	$2.360000	9/30/2006	$2.360000	0	$0.000000
8	FY06 SS Telco Circuit Costs	9/30/2006	$2.760000	9/30/2006	$2.760000	0	$0.000000
9	FY07 SS Operations	9/30/2007	$11.011000	9/30/2007	$8.300000	0	$2.711000
10	FY07 SS Telecommunications	9/30/2007	$11.770000	9/30/2007	$11.490000	0	$0.280000
11	FY07 SS Operations	9/30/2007	$3.790000	9/30/2007	$3.260000	0	$0.530000
12	FY08 SS Cyber Security Control Testing	9/30/2008	$0.040000	9/30/2008	$0.090000	0	-$0.050000
13	FY08 SS Operations	9/30/2008	$12.530000	9/30/2008	$9.600000	0	$2.930000
14	FY08 SS Telco Circuit Costs	9/30/2008	$16.970000	9/30/2008	$16.220000	0	$0.750000
15		9/30/2009	$0.100000		$0.000000		$0.100000
16	FY09 SS Operations Actual costs reflect a 01/31/09 As of Date	9/30/2009	$12.010000		$4.060000		$7.950000
17	FY09 SS Telco Circuit Costs Actual costs reflect a 01/31/09 As of Date	9/30/2009	$11.940000		$5.860000		$6.080000
18		9/30/2010	$0.100000		$0.000000		$0.100000
19	FY10 SS Operations	9/30/2010	$13.520000		$0.000000		$13.520000
20	FY10 SS Telco Circuit Costs	9/30/2010	$15.190000		$0.000000		$15.190000
21		9/30/2011	$0.100000		$0.000000		$0.100000
22	FY11 SS Operations	9/30/2011	$14.900000		$0.000000		$14.900000
23	FY11 SS Telco Circuit Costs	9/30/2011	$15.090000		$0.000000		$15.090000
24		9/30/2012	$0.100000		$0.000000		$0.100000
25	FY12 SS Operations	9/30/2012	$15.660000		$0.000000		$15.660000
26	FY12 SS Telco Circuit Costs	9/30/2012	$14.650000		$0.000000		$14.650000
27		9/30/2013	$0.100000		$0.000000		$0.100000

2.b Comparison of Plan vs. Actual Performance Table

Milestone Number	Description of Milestone	Planned		Actual		Variance	
		Completion Date (mm/dd/yyyy)	Total Cost($M)	Completion Date (mm/dd/yyyy)	Total Cost($M)	Schedule (# days)	Cost($M)
28	FY13 SS Operations	9/30/2013	$16.470000		$0.000000		$16.470000
29	FY13 SS Telco Circuit Costs	9/30/2013	$14.280000		$0.000000		$14.280000
30		9/30/2014	$0.100000		$0.000000		$0.100000
31	FY14 SS Operations	9/30/2014	$17.310000		$0.000000		$17.310000
32	FY14 SS Telco Circuit Costs	9/30/2014	$11.520000		$0.000000		$11.520000
Project Totals		**9/30/2014**	**$246.851000**	**9/30/2008**	**$76.480000**	**2191**	**$170.371000**